

Tabular Synopsis of the Rhynchophora of America.

(See Minutes of January 5, 1877.)

Dr. Le Conte presented a tabular statement of the number of species of Rhynchophora, contained in the XV. volume of the Proceedings of the Society, and their geographical distribution in the different zoological provinces of temperate North America. He mentioned the instances in which the occurrence of similar extraordinary forms in geographical regions very remote from each other corresponded with what he had previously shown in the other higher types of Coleoptera, and again expressed the opinion that the isolated and feebly represented, though sometimes widely distributed forms in insects were representative survivals of the faunæ of former geologic periods ; and proceeded :

It is useless to oppose this view by the statement that these composite, synthetic, prophetic or undifferentiated types have not yet been found in the strata, for every well-informed entomologist will remember that except in Tertiary strata but few localities have presented specimens sufficiently preserved to permit accurate study. Moreover the localities thus far explored are all in the temperate zone, where we may reasonably not expect to find the predecessors of the larger and more conspicuous forms.

In the older rocks the insect remains are so compressed, and the sutures of the most important elements of the external skeleton so obliterated, that but little knowledge can be had except from the venation of the broad winged orders. In this respect there is, as I can state from information furnished me by Dr. Hagen, a striking correspondence between some of the Carboniferous lace-winged insects and our own existent *Pteronarcys*.

But in fact, *Pteronarcys*, being peculiar, among all genera of similar form and appearance, by possessing in the adult distinct remnants of the larval branchiæ on the anterior segments of the abdomen, would necessarily, by my method of interpreting structures, be regarded as a survival of an ancient form, even if no *Miumia* wing had been found in the coal quarries.

A better appreciation of the characters of resemblance, which ally the more important groups represented at present in the various classes of animals, as contrasted with the differences between them and their analogues of former periods, the remains of which are found in the rocks, and which are occasionally represented by survivals of insignificant size or restricted area, will enable entomologists to take broader views of the capabilities of the branch of science which they cultivate ; but in which too often their attention is directed to squabbles about nomenclature, orthographic or historical, and to the simple enlargement of our knowledge by the description of generic and specific forms.

Tabular Synopsis and Geographical Distribution of Families, Subfamilies, north of Mexico, by J. L. Le Conte, assisted by George H. Horn, and XV, No. 96. (See Minutes of January 5, 1877.)

FAMILY.	NAME. SUBFAMILY. TRIBE.	NUMBER.					
		GENERA.			SPECIES.		
		Deser.	New.	Total.	Deser.	New.	Total.
I.	RHINOMACERIDÆ.....	1		1		4	4
II.	RHYNCHITIDÆ.....						
	i. Rhynchitidæ.....	3		3	10	11	21
	ii. Pterocolidæ.....	1		1	1		1
III.	ATTELABIDÆ.....	1		1	4	1	5
IV.	BYRSOPIDÆ.....	1		1	1?		1?
V.	OTIORHYNCHIDÆ.....						
	1. Brachyderini....	4	5	9	6	5	11
	2. Ophryastini....	6	12	18	13	13	26
	3. Otiorhynchini...	7	11	18	19	23	42
	4. Dirotognathini..		1	1		1	1
	5. Tanymecini....	4		4	4	3	7
	6. Cyphini.....	5	3	8	5	8	13
	7. Evotini.....	2	1	3	1	2	3
	8. Phyllobiini.....	2	2	4	2	3	5
	9. Promecopini....	3		3	4	1	5
VI.	CURCULIONIDÆ.....						
	i. Sitonidæ.....	1		1	8		8
	ii. Alopheidæ.....	1	5	6	7	4	11
	iii. Ithyceridæ.....	1		1	1		1
	iv. Curculionidæ.....						
	1. Phytonomini....	4		4	24	19	43
	2. Emphyastini....	1		1	1		1
	3. Hyllobiini.....	5	2	7	13	2	15
	4. Cleonini.....	3	3	6	16	25	41
	5. Eriirhinini.....	13	6	19	22	48	70
	6. Trachodini.....	1		1	3		3
	7. Otidocephalini..	1		1	7	1	8
	8. Magdalini.....	1		1	12	4	16
	9. Anthonomini....	2	3	5	17	34	51
	10. Prionomerini....	2		2	2	1	3

Tribes, Genera, and Species, mentioned in the Rhynchophora of America, published in the Proceedings of the American Philosophical Society, Vol.

DISTRIBUTION.						COMMON TO OTHER CONTINENT.	
GENERA.			SPECIES.			Genera.	Species.
Atlantic.	Central.	Pacific.	Atlantic.	Central.	Pacific.		
1		1	2		3	1	0
3	2	2	12	5	6	3*	0
1			1				
1	1		4	2		1	0
1	1		1?	1?			
3	3	4	4	4	4	1	1
7	2	12	11	2	14		
3	12	6	4	25	14	3	5
		1			1		
3	2		6	2		1	0
5	4		6	9			
1	2	1	1	2	1		
4		1	4		1	2	1
3	1		3	2			
1	1	1	3	1	4	1	5
1	2	6	1	3	8		
1			1				
4	4	4	33	5	6	2	3
		1			1	*	
6		2	13		3	3	0
3	6	3	14	19	13	3	0
17	9	11	47	16	20	8	4
		1			3	1	0
1	1	1	6	1	1		
1		1	8	2	7	1	0
4	4	4	39	6	12	2	
2			3				

FAMILY.	NAME. SUBFAMILY. TRIBE.	NUMBER.					
		GENERA.			SPECIES.		
		Deser.	New.	Total.	Deser.	New.	Total.
	11. Tychiini.....	2	6	8	1	15	16
	12. Cionini.....	4		4	3	1	4
	13. Derelomini.....		1	1		3	3
	14. Læmosaccini...	1		1	1		1
	15. Cryptorhynchini	8	8	16	34	45	79
	16. Zygonini.....	2	1	3	4	9	13
	17. Tachygonini....	1		1	2	2	4
	18. Ceutorhynchini..	6	3	9	15	24	39
	19. Barini.....	2	15	17	40	44	84
	20. Hormopini.....		1	1		1	1
	v. Balaninidæ.....	1		1	6		6
VII.	BRENTHIDÆ.....						
	i. Brenthidæ.....						
	1. Arrhenodini....	1		1	1		1
	2. Brenthini.....	1		1	2		2
	ii. Cyladidæ.....	1		1	1		1
VIII.	CALANDRIDÆ.....						
	i. Calandridæ.....						
	1. Rhynchophorini	1		1	2		2
	2. Sphenophorini..	3	3	6	33	4	37
	3. Calandrini.....	1		1	3		3
	ii. Rhinidæ.....		1	1	1		1
	iii. Cossonidæ.....						
	1. Dryophthorini..	3	1	4	2	2	4
	2. Cossonini.....	5	2	7	13	1	14
	3. Rhyncolini.....	7		7	11		11
IX.	SCOLYTIDÆ.....						
	i. Platypodidæ.....	1		1	5		5
	ii. Scolytidæ.....						
	1. Tomicini.....	10	1	11	56	13	69
	2. Scolytini.....	1		1	6	3	9
	3. Hylurgini.....	11	3	14	35	7	42
X.	ANTHRIBIDÆ.....						
	1. Tropiderini....	3	5	8	3	7	10
	2. Basitropini....	5	3	8	10	8	18
	3. Aræocerini.....	2		2	1	2	3
	4. Xenorchestini..	1	1	2	1	1	2
XI.	APIONIDÆ.....	1		1	22		22
		161	109	270	517	405	922

DISTRIBUTION.						COMMON TO OTHER CONTINENT.	
GENERA.			SPECIES.			Genera.	Species.
Atlantic.	Central.	Pacific.	Atlantic.	Central.	Pacific.		
5	1	3	10	1	5	2	0
4			4			4	3
1			3				
1			1				
13	5	5	65	11	8	3	0
3	1	2	9	3	5		
1	1		3	1		*	
9	3	3	31	5	9	7	4
14	9	6	71	20	10	?	
1			1				
1	1	1	6	1	1	1	0
1	1		1	1			
		1			2		
1			1			1	0
1		1	1		1	1	0
2	4	4	21	25	13	1	0
1	1	1	3	1	1	1	2
		1			1		
4	1		4	1		1	0
6	1	2	13	1	3	4	0
5	1	3	6	1	6	5	0
1		1	4		1	1	0
10	3	7	47	7	27	6	0
1	1	1	4	1	5	1	0
12	4	9	25	6	21	7	0
6	1	3	7	1	3	1	0
8	1		17	1		2	0
2		1	3		1	1	1
2			2			1*	0
1	1	1	13		9	1	0
163			591				
98			194				
118			255				

Remarks :

I. This family consists of but one genus ; one species is found in Europe ; all others known occur in our fauna.

II, i. Rhynchites is cosmopolitan ; Auletes occurs in Europe, and Eugnamptus in Asia. The latter is the most feebly developed of the family, and resembles in its distribution, Othnius and Ischalia of the Heteromera, and tribe Tachygonini (VI. iv, 17), mentioned below.

II, ii. Pterocolus is an isolated form, having at present no relationships with other genera, though a feeble resemblance in form to the Ceutorhynchini (VI. iv, 18). If my method of interpretation be correct, there were older genera, by which Pterocolus and Tachygonus were affiliated.

III. Attelabus is cosmopolitan, and seems to be the highest development in the series Haplogastra.

IV. The Byrsopidae are represented in all zoölogical regions, except Australia ; but our genus, Thecesternus, represents an isolated group. From the great differences between individuals, which seem to have unstable specific characters, I am disposed to regard this group as an ancient survival, in the process of evolving into something else. The variations in the length of the humeral processes of the elytra, and in the sculpture are scarcely explicable, unless we suppose that species formerly distinct are hybridizing. That an ancient type should suddenly effloresce in modern times to produce many species is hardly conceivable, and we should, therefore, be willing to admit, that in this instance the phenomenon is one of absorption, or integration rather than differentiation.

V, 1. *Barynotus Schönherri* occurs in Northern Europe, and is subarctic, and therefore quite capable of being found on both continents.

V, 3. Two species of *Otiorhynchus* are arctic, and common to both continents ; three have been introduced with fruit trees. *Mylæus* occurs in Europe and Asia, and on our Pacific Coast ; *Trachyphlæus* in Europe, Asia, and in Eastern America.

V, 5. *Tanymecus* is supposed to be cosmopolitan, but has not yet been properly studied. Of the other genera in our fauna, *Pandeleteius* and *Pachnæus* extend to the Northern Tropics of America, and *Hadromerus* even to Brazil.

V, 6. *Cyplus* is largely represented in Tropical America, and is conjectured to occur in Asia (*C. chrysis*, Fabr.). The other genera, so far as known, are North American, or extend only into the Northern Tropics.

V, 7. The only described genus of this tribe is *Lachnopus*, which extends from the Northern Tropics into our fauna. The other genera in our fauna are new, and their distribution is not yet known.

V, 8. One species of *Phyllobius* has been introduced from Europe into Canada. *Scythropus* occurs on both sides of the continent, in Europe, and also in Northern Africa.

V, 9. This tribe seems to be exclusively American, and one genus, *Coleocerus*, extends to the Southern Temperate Zone.

VI, i. *Sitones* is confined to the northern hemisphere ; of the eight species in our fauna, five occur in Europe, and of these, but one, *S. tibialis*, can be supposed to have been introduced.

VI, ii. This sub-family is confined to the temperate and subarctic regions of the northern hemisphere; the genera are all different from those recognized on the other continent, though it is quite possible that some of them may be represented in Northern Asia.

VI, iii. *Ithycerus* is an entirely isolated form, having no relations to other genera, so far as known to me.

VI, iv, 1. One species of *Phytonomus* and two of *Lepyrus* are common to the subarctic regions of both continents. *Listronotus* and *Macrops* probably extend into tropical America, but a renewed study of the old genus *Listroderes* must be made before this can be definitely stated.

VI, iv, 2. This peculiar maritime fossorial tribe is represented by a different genus in Australia.

VI, iv, 3. *Plinthus*, *Hylobius*, and *Pissodes*, are confined to the northern hemisphere, but may be represented (*teste* Schönherr) in Brazil and Australia. *Hilipus* is largely represented in South America, but not on the other continent, unless *H. orientalis* Motsch, from Japan, should on proper examination prove to belong to the genus.

VI, iv, 4. The genera in this tribe are very indefinite, and the foreign species still require revision to bring out the facts in geographical distribution. *Lixus*, *Cleonus*, and *Stephanocleonus*, are the only examples I can mention at present of genera common to both continents.

VI, iv, 5. *Procas picipes*. two species of *Grypoidius* and *Tanysphyrus lemnae*, are common to the northern part of both continents, and have not been introduced. The only genus which extends to Tropical America is *Phyllotrox*.

VI, iv, 6. *Trachodes* is subarctic, and occurs on both continents.

VI, iv, 7. *Otidocephalus* is peculiar to North and South America.

VI, iv, 8. *Magdalis* is cosmopolitan, but most largely represented in Europe and North America.

VI, iv, 9. *Anthonomus* is cosmopolitan, or nearly so. *Orchestes* is confined to the northern hemisphere. The other genera in our fauna are new, and their distribution is consequently unknown.

VI, iv, 10. This tribe seems to be exclusively American, but both genera extend into the southern tropics.

VI, iv, 11. The tribe *Tychiini* has not been separated from *Eriirhinini* sufficiently accurately to make any observations of value at present.

VI, iv, 12. I do not know if the species common to Europe and America have been introduced or not. The tribe, by the diminished number of joints in the funicle of the antennæ indicates a low grade, and the genera are widely diffused on the eastern continent, but do not occur in South America or Australia.

VI, iv, 13. This small tribe is represented on both continents; the species have not been studied with sufficient care to indicate the distribution of the genera.

VI, iv, 14. This tribe is American, and best represented in the tropics.

VI, iv, 15. With the exception of *Acalles*, *Cryptorhynchus*, and *Cælo-*

sternus, which are supposed to be cosmopolitan, our genera are not found on the other continent. These which have been previously described, mostly extend to the southern tropics of America, and of the eight new genera, nothing can yet be said. As a tribe the distribution is general.

VI, iv, 16. *Copturus* abounds in tropical America, and is feebly represented in tropical Asia. *Piazurus* is entirely American. As a tribe the distribution is general.

VI, iv, 17. *Tachygonus* is exclusively American; one species is Brazilian. The only representative in foreign parts is *Dinorhopala* Pascoe, in Burmah.

VI, iv, 18. With closer comparison the number of species common to Europe and the United States may probably be increased. There is but one, *Ceutorhynchus rape*, which may have been introduced.

VI, iv, 19. Until a new study has been made of *Baris*, *Centrinus*, and allied genera, any remarks upon geographical distribution would be premature.

VI, v. *Balaninus*, as recorded in the Munich Catalogue is cosmopolitan; a better study of the foreign species is necessary, in order to know if they possess the essential character of the subfamily; the vertical movement of the mandibles.

VII, i. Our two genera extend into tropical America.

VII, ii. *Cylas formicarius* has probably been imported from Asia, though *Convolvulus batata*, upon which it depredates, is considered an American plant.

VIII, i, 1. *Rhynchophorus* is cosmopolitan, but confined to tropical and subtropical regions, being parasitic upon palm trees. *Sphenophorus* is cosmopolitan. *Calandra* has been distributed in cereals until it is now difficult to determine whence the species have emigrated.

VIII, iii, 1. *Dryophthorus* seems to be cosmopolitan, the other genera are local, so far as known at present.

VIII, iii, 2. *Cossonus* and *Mesites* are common to both continents; *Caulophilus* is found in Madera, and *Himatium* in India. *Stenomimus* occurs in Brazil, and *Homaloxenus* in San Domingo.

VIII, iii, 3. *Stenoscelis* is almost cosmopolitan; *Rhyncolus* is found throughout the northern hemisphere, and in Brazil; *Phloeophagus*, *Amaurorhinus*, and *Hexarthrum* in the Atlantic Island and Europe; the last named also occurs in Japan.

IX, i. *Platypus* is cosmopolitan.

IX, ii, 1. *Pityophthorus*, *Xyloterus*, *Xylechus*, *Dryocætes*, *Cryphalus*, and *Tomicus*, are common to both continents.

IX, ii, 2. *Scolytus* is widely diffused on both continents.

X, 1. *Tropideres* is the only genus occurring on the other continent.

X, 2. *Anthribus* and *Brachytarsus* are represented in Europe.

X, 3. *Choragus* also occurs in Europe. *Areocerus* is cosmopolitan, and distributed in articles of commerce.

X, 4. *Xenorchestes* has been found only in Madeira.

XI. *Apion* is cosmopolitan.